



International Conference on
BIOTECHNOLOGY APPROACHES
FOR ALLEVIATING
MALNUTRITION AND
HUMAN HEALTH

9th-11th January 2006

ABSTRACTS

University of Agricultural Sciences
Gandhi Krushi Vignyan Kendra
Bangalore - 560 065, Karnataka, India

INTEGRATED MULTIDISCIPLINARY APPROACH FOR CONTAINING AFLATOXIN-LINKED MALNUTRITION IN HUMANS AND ANIMALS

Farid Waliyar, Lava Kumar P., Sharma K.K., Nigam S.N. and Hoisington D.
International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Patancheru - 502 324, Andhra Pradesh, India. p.lavakumar@cgiar.com

Malnutrition, often called "Hidden Hunger", is the major source of health problems in humans in the developing countries. It is linked with micronutrient deficiency in staple diets and efforts are being made to overcome this problem through nutrient supplements and biofortification. Microbial toxins in food and feed are another important source for malnutrition-related illnesses. The microbial 'aflatoxins' produced by the *Aspergillus* are the major cause for deteriorate food quality. Aflatoxins are carcinogenic and highly toxic to livestock, which are implicated in several human diseases, compromises on immunity and interferes with protein and micronutrient metabolism. Food safety regulations to prevent consumption and marketing of aflatoxin-contaminated foods and feeds are not very effective. Simple technologies and crop management practices that are convenient and affordable for growers and processors are necessary to reduce aflatoxin contamination. ICRISAT is attempting to develop an integrated package encompassing genetic enhancement through conventional breeding and transgenic approaches; use of antagonistic biocontrol agents; habitat management through soil amendments; post-harvest, processing and storage practices. Details of these interdisciplinary approaches in reducing the risk of aflatoxin exposure and its impact on reducing malnutrition-related illnesses in developing countries will be presented.